

CLAIMS

1. A method for transmitting map data in a communication type navigation system, wherein a center server for transmitting the map data in the system executes the steps of:

receiving information of a current location and a destination from an on-vehicle terminal;

searching for a traveling route between the current location to be a starting place and the destination based on those information, and making guidance information on the searched traveling route; and

when transmitting traveling route information including the traveling route or the guidance information and plural map information blocks into which map information on the traveling route is divided, placing the map information blocks in the order of priority for transmission, and transmitting the map information blocks according to the order of priority.

2. The method for transmitting map data according to claim 1,

wherein the map information blocks are divided depending on the searched traveling route,

as for the order of priority for transmitting the map information blocks, a high priority is given to a map information block in the vicinity of the starting place and a low priority is given to a block in the vicinity of the destination,

the order of priority for transmitting the traveling route information is set equal to or higher than that of the map information blocks in the vicinity of the starting place, and

the map information blocks are transmitted in order of
5 priority for transmission.

3. A method for transmitting map data in a communication type navigation system, wherein a center server for transmitting the map data in the system executes the steps of:

receiving information of a current location and a
10 destination from an on-vehicle terminal;

searching for a traveling route between the current location to be a starting place and the destination based on those information, and making guidance information on the searched traveling route; and

15 when transmitting traveling route information including the traveling route or the guidance information and plural map information blocks into which map information on the traveling route is divided based on distances from the traveling route, placing the map information blocks in the order of priority
20 for transmission, and transmitting the map information blocks according to the order of priority.

4. The method for transmitting map data according to claim 3,

wherein the map information blocks are divided along the
25 shape of the searched traveling route and according to distances

from the searched traveling route,

as for the order of priority for transmitting the map information blocks, the highest priority order is given to the nearest map information from the traveling route, and the others
5 are set lower as their distances from the traveling route increase,

the order of priority for transmitting the traveling route information is set equal to or higher than that of the map information blocks in the vicinity of the starting place, and

10 the map information blocks are transmitted according to the order of priority for transmission.

5. The method for transmitting map data according to claim 1,

wherein the map information blocks are further divided
15 into road data blocks containing information relating to roads in map information, and background data blocks containing name data such as place names and landmark names in the map information or background data such as rivers, seas, golf courses, and airports in the map information, and

20 the order of priority for transmitting the road data blocks is higher than that of the background data blocks.

6. The method for transmitting map data according to claim 5,

wherein the road data blocks are further divided into
25 freeway data blocks containing information on freeways, main

road data blocks containing information on main roads other than freeways, and narrow road data blocks containing information on narrow roads such as roads of residential zones,

the transmission priorities of respective data blocks
5 in an identical map information block are ranked in order of the freeway data blocks, the main road data blocks, the narrow road data blocks, and the name data blocks, and

the map information blocks are transmitted according to the order of priority for transmission.

10 7. An on-vehicle terminal in a communication type navigation system, comprising the functions of:

transmitting information of a current location and a destination to a map data provision center server;

receiving information of the traveling route searched
15 for by the center server based on information of the current location and the destination, and plural map information blocks from the center server, wherein the traveling route is a route between the current location to be a starting place and the destination, and plural map information blocks are blocks into
20 which map information on the traveling route is divided along the traveling route;

upon receiving the traveling route information, starting navigation that instructs a guidance direction to a next guidance point, a road name relating to the next guidance
25 point, an intersection name relating to the next guidance point,

a point name relating to the next guidance point, a distance of up to the next guidance point, or a distance of up to a destination, with a display or a voice.

8. An on-vehicle terminal in a communication type
5 navigation system, executing the functions of:

transmitting information of a current location and a destination to a map data provision center server;

receiving information of a traveling route searched for
by the center server based on information of the current location
10 and the destination, wherein the traveling route is a route
between the current location to be a starting place and the destination;

receiving a map information block in the vicinity of the starting place earlier than other map information blocks; and

15 upon receiving the traveling route information and the map information blocks in the vicinity of the starting place, displaying a map on screen in the vicinity of the starting place to start navigation.

9. The on-vehicle terminal according to claim 8,

20 wherein the map information blocks received by the on-vehicle terminal are classified into road data blocks containing information relating to roads in map information, and background data blocks containing name data such as place names and landmark names in the map information or background
25 data such as rivers, seas, golf courses and airports in the

map information,

the on-vehicle terminal receives a road data block in the vicinity of the starting place earlier than other data blocks, and upon receiving the road data block in the vicinity of the starting place, displays on screen a map on which roads and a route portion in the vicinity of the starting are drawn, to start navigation.

10. The on-vehicle terminal according to claim 9,

wherein the on-vehicle terminal receives the background data blocks after receiving the road data blocks, and upon receiving the background data blocks, superimposes and displays background data on a road map already displayed on screen.

11. The on-vehicle terminal according to claim 9,

wherein the on-vehicle terminal receives main road data blocks or narrow road data blocks after receiving freeway data blocks, and upon receiving the main road data blocks, superimposes and displays main road data on a displayed map; and upon receiving the narrow road data blocks, further superimposes and displays narrow road data.

20 12. The on-vehicle terminal according to claim 9,

wherein the on-vehicle terminal executes the functions of:

determining whether a map data block in the vicinity of the vehicle position have been received, and traveling route information with guidance information has been received,

when the traveling route information with guidance information has been received, and the map data block in the vicinity of the vehicle position have not been received, turning on the mode of performing guiding by using only the traveling route information with guidance information, and when the traveling route information with guidance information has been received, and the map data blocks in the vicinity of the vehicle position have been received, turning on the mode of performing guiding while displaying map data in the vicinity of the vehicle position.